

# epiTRENDS

A Monthly Bulletin on Epidemiology and Public Health Practice in Washington State

## Salmonella Infections Associated with Dried Pet Treats

Lucky the dog sat intently while waiting for a treat from her owner who was fixing lunch. The reward for Lucky was a piece of dried beef heart that she happily chewed on while her owner ate his sandwich. The following day Lucky's owner developed a fever, diarrhea, and abdominal pain. He later learned that his illness was caused by *Salmonella* and that the pet treat was the source. If Lucky's owner had washed his hands thoroughly before handling his own food, he may have prevented his illness.

### Cross border investigation of salmonellosis associated with gourmet pet treats, 2005

Between December 2004 and June 2005, five human cases of *Salmonella* Thompson with identical PFGE patterns were investigated in two Canadian provinces (Alberta Health and Wellness, British Columbia Centre for Disease Control), and Washington State (Public Health – Seattle and King County).

All of the cases reported exposure to pet treats. Product traceback revealed that the implicated pet treats were manufactured in a facility in Whatcom County, Washington and distributed to retail stores nationwide and also in Canada. The contaminated pet treats were uncooked dried beef and fish products, including beef jerky, beef heart and salmon "snackers." Laboratory testing of unopened packages of the salmon pet treats yielded *Salmonella* Thompson that matched the five human cases.

In June, the United States Food and Drug Administration and Washington Department of Agriculture visited the manufacturer. Following the visit, all of the products from this facility were recalled in both Canada and the United States.

### Not the first time...

In 1999, a cluster of more than 35 *Salmonella* Infantis infections was identified in Alberta, Canada. Further laboratory testing of this relatively uncommon type of *Salmonella* confirmed that the isolates were of the same pattern. Subsequent investigation found the infections were associated with processed pig ears marketed as dog treats. The pet treats were recalled in Canada and in eleven states, including Washington.

As part of the investigation in Canada, production plants and various pet treats containing lamb, turkey or beef were tested. Five of 12 production plants and 38% of rawhide type pet treats that were tested were positive for *Salmonella*, indicating the contamination was not limited to pig ears or to a single production site. In addition, *Salmonella* isolates of more than one type were identified although only *S. Infantis* infections were connected to the pig ear product.

As a result of the investigation, numerous pet treat products were recalled in Canada during 1999 and 2000 due to *Salmonella* contamination. Multiple producers were

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involved. Types of products included beef chews, hooves, beef trachea, pig kidneys and hearts, and lamb livers.

### **Salmonellosis and pets**

Well cared for dogs and cats are usually not a direct source of enteric illness for people, however raw food diets have become popular with some pet owners. Feeding raw meat and produce to pets can cause enteric infections that could be transmitted to owners. Reptiles are a common source of zoonotic transmission of salmonellosis as are baby ducks and chicks. Farm animals, particularly young animals like calves, can transmit *Salmonella* as well as other enteric infections such as *E. coli* O157:H7, *Campylobacter* and *Cryptosporidium*.

### **Symptoms of infection**

Salmonellosis is a bacterial disease that can cause gastroenteritis including diarrhea, fever, chills, and abdominal pain starting 12 to 72 hours after infection. The illness usually lasts 4 to 7 days, and most persons recover without treatment. In severe cases, people may become dehydrated; complications also include the spread of *Salmonella* infection from the intestines to the blood stream. The elderly, infants, and those with impaired immune systems are more likely to develop a serious infection. People are most often infected by eating food or drinking water contaminated with *Salmonella* or by contact with infected people, animals, or the environment of infected animals.

### **Prevention**

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**epiTRENDS Monthly Posting Alert**

The most effective disease prevention is to always wash hands thoroughly with soap and warm water before eating, after handling animals and raw pet treats, after handling raw meats, and after possible contamination. Also, wash fruits and vegetables before eating them raw. If you have a compromised immune system, avoid contact with reptiles, baby chicks, and ducklings and be extra cautious when contacting farm animals, including animals at petting zoos.

The latest Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2005 is available at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5404a1.htm>

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## **Stool Testing for Diarrhea**

Diarrhea isn't a pleasant subject, but it's important to clarify to patients and health care providers how to obtain the correct specimen and request the appropriate test.

### ***Enteric bacteria (Campylobacter, E. coli O157:H7, Salmonella, Shigella, Vibrio, Yersinia)***

Symptoms typically last two to seven days and may include bloody diarrhea and sometimes vomiting. For a stool culture, coat a swab with stool and place it into stool transport medium (e.g., Cary Blair), which sustains the organisms until they can be grown; specify if *E. coli* O157:H7 is suspected because additional lab testing may be required. Ship at ambient temperature.

***Intestinal parasites (Giardia, Cryptosporidium, Cyclospora)***

Symptoms typically last weeks with intermittent bouts of abnormal stools. Collect the designated amount of whole stool with an O&P (ova and parasite) kit, which has a fixative that preserves the organisms for microscopic examination; specify if *Cryptosporidium* or *Cyclospora* is suspected because additional lab testing may be required. Ship at ambient temperature.

***Noroviruses (previously Norwalk-like viruses)***

Symptoms typically last 24 to 48 hours and include vomiting, headache, body aches, and fever. Norovirus stool testing is not generally done but requires whole stool in sterile container for testing by PCR (polymerase chain reaction). Ship cold on ice packs but not frozen.

Local health jurisdictions can consult with Department of Health Communicable Disease Epidemiology Section (877-539-4344) for testing of stool specimens related to an outbreak including testing for Norovirus. Laboratories should routinely send all *Salmonella*, *Shigella*, and shiga toxin positive *E. coli* (such as *E. coli* O157:H7) to DOH Public Health Laboratories for strain typing.

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**Note**

Local health jurisdictions are invited to the 2005 fall Epi Road Show where collecting specimens for lab tests and other topics will be presented. The Epi Road Show will be in Lacey on September 22nd and in Moses Lake on September 27th. Registration information will be sent to local health jurisdictions in advance.